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(54) Title: PHOTORESISTS, FLUORINATED POLYMERS AND PROCESSES FOR 157 nm MICROLITHOGRAPHY

(57) Abstract: This invention provides novel fluorine containing polymers which comprise at least one fluorinated olefin, at least one polycyclic ethylenically unsaturated monomer with a fused 4-membered carbocyclic ring and, optionally, other components. The polymers are useful for photoimaging compositions and, in particular, photoresist compositions (positive-working and/or negative-working) for imaging in the production of semiconductor devices. The polymers are especially useful in photoresist compositions having high UV transparency (particularly at short wavelengths, e.g., 157 nm) which are useful as base resins in resists and potentially in many other applications.

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# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/25022

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C08F 14/18; G03C 1/73

US CL : 526/250; 430/270.1

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 526/250; 430/270.1; 526/247; 526/255; 430/325; 430/326; 430/907; 430/331; 430/914

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
USPAT, USPG-PUB, EPO, JPO, DERWENT

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,229,473 A (KOBO et al) 20 July 1993 (20.07.1993), abstract, line 1-40; column 1, line 65 - column 2, line 60; column 2, line 50-60; column 6, line 42 - column 7, line 12; column 8, line 46-58. Claims 1-5.	1-5
Y	US 2,928,865 A (BRASEN) 15 March 1960 (15.03.1960), column 2, line 21-70; column 9, line 19-28 and 46-54.	1-45
Y	US 2002/0119398 A1 (DESIMONE et al) 29 August 2002 (29.08.2002), paragraphs 0101-0115 and 0087-0096. Column 6-45.	6-45

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

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